

WHAT IS CLAIMED IS:

1. A display device which includes a display portion having a capacitive load and an output buffer having a driving capability that depends on a bias current, and which displays an image on the display portion by letting the output buffer apply an analog voltage corresponding to an input image signal to the capacitive load to drive the display portion, the display device comprising:

a bias current control portion that controls the bias current;

wherein the output buffer is configured such that the bias current can be dynamically changed; and

wherein the bias current control portion changes the bias current while the display portion is driven.

2. The display device according to claim 1, wherein the output buffer comprises:

a plurality of transistors, connected in parallel, for outputting the analog voltage; and

a switching circuit for switching at least one of the plurality of transistors between an operative state and an inoperative state;

wherein the bias current control portion changes the bias current by changing the number of said plurality of transistors that are in the operative state with the switching circuit.

3. The display device according to claim 1, wherein the output buffer comprises:

a transistor for outputting the analog voltage; and

an operating point changing circuit for changing an operating point of the transistor;

wherein the bias current control portion changes the bias current by changing the operation point of the transistor with the operating point
5 changing circuit.

4. The display device according to claim 1, wherein the bias current control portion changes the bias current during a charge period or a discharge period, which is a period during which the output buffer is to apply
10 the analog voltage to the capacitive load.

5. The display device according to claim 4, wherein the bias current control portion controls the bias current such that, after a predetermined time within the charge period or the discharge period, the bias current is
15 smaller than at the beginning of the charge period or the discharge period.

6. The display device according to claim 4, wherein the bias current control portion determines, based on the input image signal, a time within the charge period or the discharge period at which the bias current is to be
20 reduced, and controls the bias current such that, after that determined time, the bias current is smaller than at the beginning of the charge period or the discharge period.

7. The display device according to claim 4, wherein the bias current control portion determines, based on a charge/discharge current flowing
25 between the output buffer and the capacitive load, a time within the charge period or the discharge period at which the bias current is to be reduced, and

controls the bias current such that, after that determined time, the bias current is smaller than at the beginning of the charge period or the discharge period.

5 8. The display device according to any of claims 5 to 7, wherein the bias current control portion completely stops the bias current after the time that has been determined as the time within the charge period or the discharge period at which the bias current is to be reduced.

10 9. A driving circuit that, in order to display an image on a display portion including a capacitive load, drives the display portion by applying an analog voltage corresponding to an input image signal to the capacitive load with an output buffer that has a driving ability that depends on a bias current, the driving circuit comprising:

15 a bias current control portion that controls the bias current;
 wherein the output buffer is configured such that the bias current can be dynamically changed; and
 wherein the bias current control portion changes the bias current while the display portion is driven.

20 10. The driving circuit according to claim 9, wherein the bias current control portion changes the bias current during a charge period or a discharge period, which is a period during which the output buffer is to apply the analog voltage to the capacitive load.

25 11. A driving method for driving a display portion including a capacitive load, in order to display an image on the display portion, by applying an

analog voltage corresponding to an input image signal to the capacitive load with an output buffer that has a driving ability that depends on a bias current, the driving method comprising:

5 a bias current changing step of changing the bias current while the display portion is driven.

12. The driving method according to claim 11, wherein, in the bias current changing step, the bias current is changed during a charge period or a discharge period, which is a period during which the output buffer is to
10 apply the analog voltage to the capacitive load.

13. The driving method according to claim 12, wherein, in the bias current changing step, the bias current is changed such that, after a predetermined time within the charge period or the discharge period, the
15 bias current is smaller than at the beginning of the charge period or the discharge period.

14. The driving method according to claim 12,
further comprising a time determination step of determining, based
20 on the input image signal, a time within the charge period or the discharge period at which the bias current is to be reduced; and

wherein in the bias current changing step, the bias current is changed such that, after that determined time within the charge period or the discharge period, the bias current is smaller than at the beginning of the
25 charge period or the discharge period.

15. The driving method according to claim 12,

further comprising a time determination step of determining, based on a charge/discharge current flowing between the output buffer and the capacitive load, a time within the charge period or the discharge period at which the bias current is to be reduced; and

5 wherein in the bias current changing step, the bias current is changed such that, after that determined time within the charge period or the discharge period, the bias current is smaller than at the beginning of the charge period or the discharge period.

10 16. The driving method according to any of claims 13 to 15, wherein in the bias current changing step, the bias current is completely stopped after the time that has been determined as the time within the charge period or the discharge period at which the bias current is to be reduced.